

REMARKS

Applicants thank the Examiner for the thorough consideration given the presently pending claims. Claims 1-6 are pending in this application. Claims 1 and 5 are independent claims.

Claim Rejections – Section §112

Claims 1 and 5 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. Insofar as it pertains to the presently pending claims, this rejection is respectfully traversed.

The Office Action alleges that the claim limitation “wherein the RF amplifier does not perform attenuation when its gain value is associated with an amplified state” is the last limitation of claim 1 and 5 and is not supported because no such recitation of this limitation may be found in the specification. Applicants respectfully disagree.

Claim 1

The limitation “wherein the RF amplifier does not perform attenuation when its gain value is associated with an amplified state” is indeed the last limitation of independent claim 1. The tone and context of the specification identifies and compares the difference between the amplified and attenuated states of an RF amplifier (See, e.g. Page 4, lines 13 – 28). The concept that the RF amplifier does not perform signal attenuation when its gain value is associated with an amplified state is therefore implicit in the specification and such an implication would be readily appreciated by one of ordinary skill in the art. The claim limitation “wherein the RF amplifier does not perform attenuation when its gain value is associated with an amplified state” therefore merely summarizes and paraphrases themes and concepts already present in the specification. Applicants therefore respectfully submit that this claim limitation fully meets the requirements of 35 U.S.C. §112, first paragraph. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claim 5

Applicants respectfully note that the last limitation of independent claim 5 is “wherein both the amplification and attenuation aspects of the amplifier gain are directly controlled by the gain control voltage.” Applicants therefore respectfully submit that the Office Action may have failed to fully and correctly address all the limitations of independent claim 5. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claim Rejections – Section 102(b)

Claims 1 – 3 and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,351,504 to Igarashi (“Igarashi”). Insofar as it pertains to the presently pending claims, this rejection is respectfully traversed.

Claim 1

Independent claim 1 pertains to a microwave frequency converter that includes, in pertinent part, “an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and a control circuit that applies a gain control voltage to the RF amplifier ... wherein the RF amplifier does not perform attenuation when its gain value is associated with an amplified state.”

In the Response to Arguments section, the Office Action states that Igarashi’s amplifier can be interpreted as performing signal attenuation because Igarashi teaches adjusting the gain of an amplifier by changing its operating state when the reception signal level decreases with the lapse of time (Igarashi at Col. 5, lines 1 – 5). Applicants respectfully disagree with this line of reasoning.

Natural Signal Decrease Is Not Amplifier-Driven Attenuation

Igarashi states that amplifier operating states change based on a decrease in reception signal level. Changes in reception signal level are wholly unrelated to any signal attenuation or amplification performed or caused by any component in Igarashi. The reception signal level is

determined only by what is picked up by Igarashi's reception antenna (Igarashi at Fig. 4; element 43). A drop in the reception signal level is therefore not caused in any way by any operation or effect of Igarashi's amplifier. Igarashi's amplifier performs signal amplification only, and only on signals detected or generated by the device itself. A drop in reception signal level is neither related to, nor otherwise caused by, any signal attenuation properties in Igarashi's amplifier. Igarashi's amplifier therefore does not have a gain "adjustable to any value within a range from an amplified state to an attenuated state" because it performs only signal amplification, not signal attenuation. Any amplifier gain adjustment capabilities taught or suggested in Igarashi are directed purely towards signal amplification and not towards signal attenuation. There is no teaching or suggestion in Igarashi that any of the amplifiers disclosed therein may be adjusted to have a gain associated with an attenuated state.

Summary

Applicants therefore respectfully submit that because Igarashi's amplifier is not taught as having signal attenuation capability, Igarashi fails to teach or suggest "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and a control circuit that applies a gain control voltage to the RF amplifier ... wherein the RF amplifier does not perform attenuation when its gain value is associated with an amplified state." as required by independent claim 1.

Claim 5

Independent claim 5 pertains to a microwave frequency converter that includes, in pertinent part, "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and a control circuit that applies a gain control voltage to the RF amplifier ... wherein both the amplification and attenuation aspects of the amplifier gain are directly controlled by the gain control voltage."

Applicants respectfully submit that Igarashi is deficient in its teaching with respect to independent claim 5 because, as noted with respect to independent claim 1, Igarashi's amplifier

has no attenuation aspects. Furthermore, the gain control voltage controls only Igarashi's amplifier and does not control or otherwise adjust the attenuator. As can be clearly seen in Igarashi's Fig. 4, there is no control signal going from the voltage control generator to the attenuator. Igarashi's control voltage controls only the amplifier, and Igarashi's amplifier has no signal attenuation capabilities. Igarashi therefore cannot teach or suggest "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and a control circuit that applies a gain control voltage to the RF amplifier ... wherein both the amplification and attenuation aspects of the amplifier gain are directly controlled by the gain control voltage" as required by independent claim 5. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 2 and 3

Applicants respectfully submit that claims 2 and 3 are allowable at least by virtue of their dependency from independent claim 1.

Conclusion

At least in view of the above, Applicants respectfully submit that Igarashi fails to teach each and every aspect of the claimed invention. Specifically, Igarashi fails to teach or suggest "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and a control circuit that applies a gain control voltage to the RF amplifier ... wherein the RF amplifier does not perform attenuation when its gain value is associated with an amplified state" as required by independent claim 1 and all claims depending therefrom. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claim Rejections – Section 103(a)

Claims 4 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Igarashi in view of U.S. Patent 5,554,954 to Takahashi ("Takahashi"). Insofar as it pertains to the presently pending claims, this rejection is respectfully traversed.

Applicants respectfully submit that claims 4 and 6 are allowable at least by virtue of their dependency from independent claims 1 and 5. Takahashi is not relied upon, nor may it properly be relied upon to remedy the deficiencies of Igarashi with respect to independent claims 1 or 5 or any claims depending therefrom. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion


Entry of the above amendments is earnestly solicited. Applicants respectfully submit that the above-presented arguments and amendments place the currently pending claims in condition for allowance. A notice of allowance is therefore respectfully solicited for all currently pending claims.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Michael K. Mutter (Reg. No. 29,680) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: August 17, 2010

Respectfully submitted,

By  489517
Michael K. Mutter
Registration No.: 29,680
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant